a second gamma ray detector arranged above an upper surface of the container with respect to gravity, opposite the first gamma ray detector;

wherein each of the first gamma ray detector and the second gamma ray detector detect radioactivity from the sample in the container; and

a processor configured to determine one or more of a volume of the sample and a concentration of a radionuclide in the sample based on at least the volume of the container, the radioactivity detected by the first gamma ray detector and the radioactivity detected by the second gamma ray detector.

10. The apparatus of claim **9**, wherein a logarithm of a ratio of the radioactivity level detected by the second gamma ray detector to the radioactivity level detected by the first gamma ray detector is substantially linear in proportion to a volume of the sample present in the container.

11. The apparatus of claim **9**, wherein the radioactivity level detected by the first gamma ray detector is equal to the radioactivity level detected by the second gamma ray detector when the container is full.

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